

# *Exploring community severance in Latin American cities*

## Learning from Street Mobility Project

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IN COLLABORATION WITH



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ORIGINAL RESEARCH FUNDED BY



# Community severance (a.k.a. the barrier effect of roads)





# The reverse of community severance

Streets for people (not for cars)

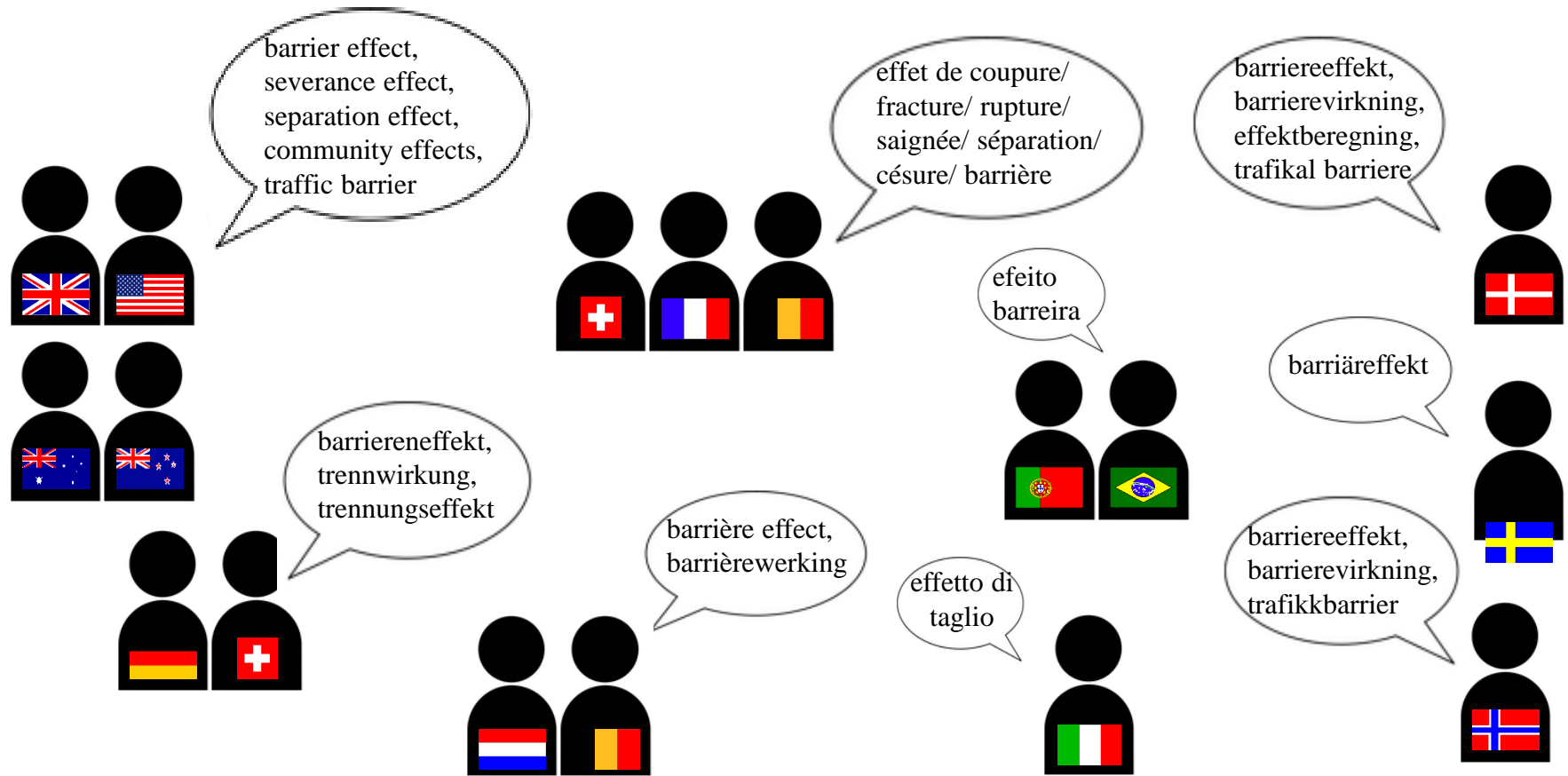


# How is community severance assessed

## in national official guidance for transport appraisal

| Country           | Mentioned | Attributes specified | Measured | Monetised |
|-------------------|-----------|----------------------|----------|-----------|
| Australia         |           |                      |          |           |
| Denmark (old)     |           |                      |          |           |
| Denmark (current) |           |                      |          |           |
| Finland           |           |                      |          |           |
| Germany           |           |                      |          |           |
| Italy             |           |                      |          |           |
| Netherlands       |           |                      |          |           |
| New Zealand       |           |                      |          |           |
| Norway            |           |                      |          |           |
| Sweden (old)      |           |                      |          |           |
| Sweden (current)  |           |                      |          |           |
| Switzerland       |           |                      |          |           |
| UK                |           |                      |          |           |
| USA               |           |                      |          |           |

# Academic research on severance

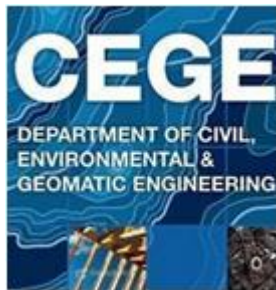


Little..

- consensus on concepts and language
- dissemination of research results
- international collaboration
- application in transport planning

# UCL STREET MOBILITY PROJECT

Developing tools to  
measure and monetise community severance



Project funded by:

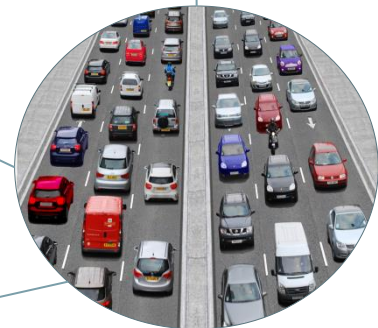




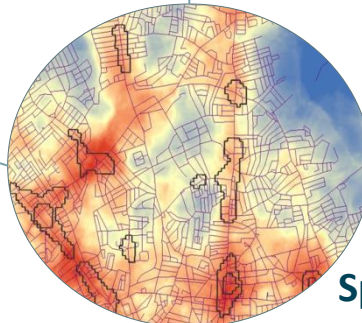
**Participatory mapping**



**Household survey**



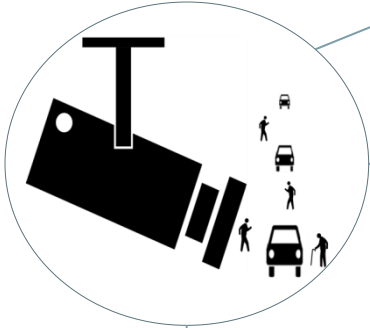
**Stated preference survey**



**Spatial analysis**



**UCL  
Street Mobility  
project**

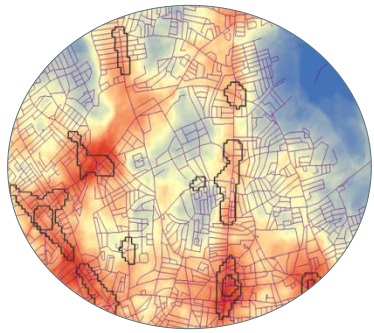


**Video surveys**



**Street audits**

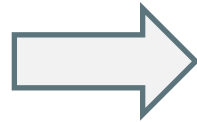




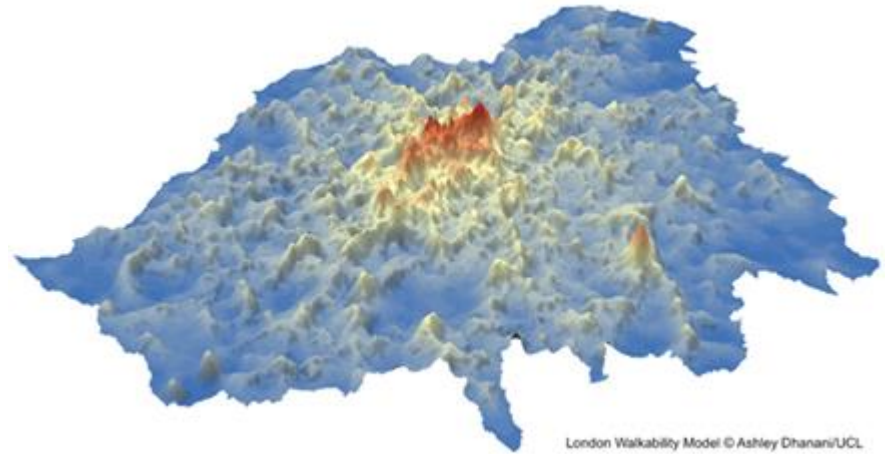
## METHOD 1

# Spatial analysis

- Density
- Land use mix
- Street connectivity



### Walkability model



High traffic volumes explain cases where measured walking flows are lower than those predicted from the walkability model



Case study selection



# Case studies

London 1



London 2



Birmingham



Southend-on-Sea





## METHOD 2

# Participatory mapping

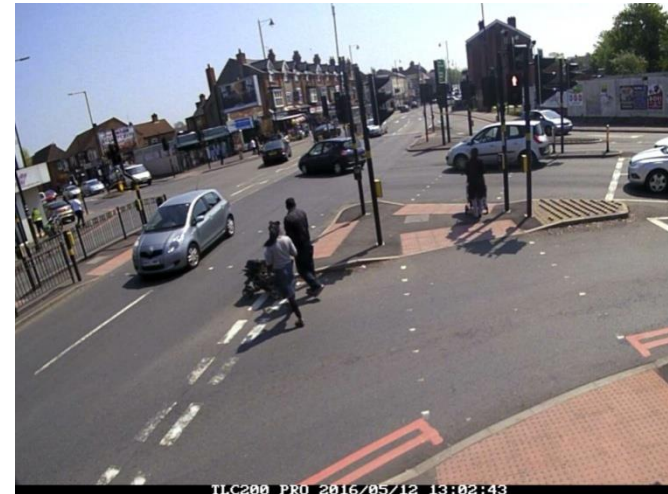






## METHOD 3

# Video surveys





## METHOD 4

# Street audits

### Crossing facilities



### Pavements

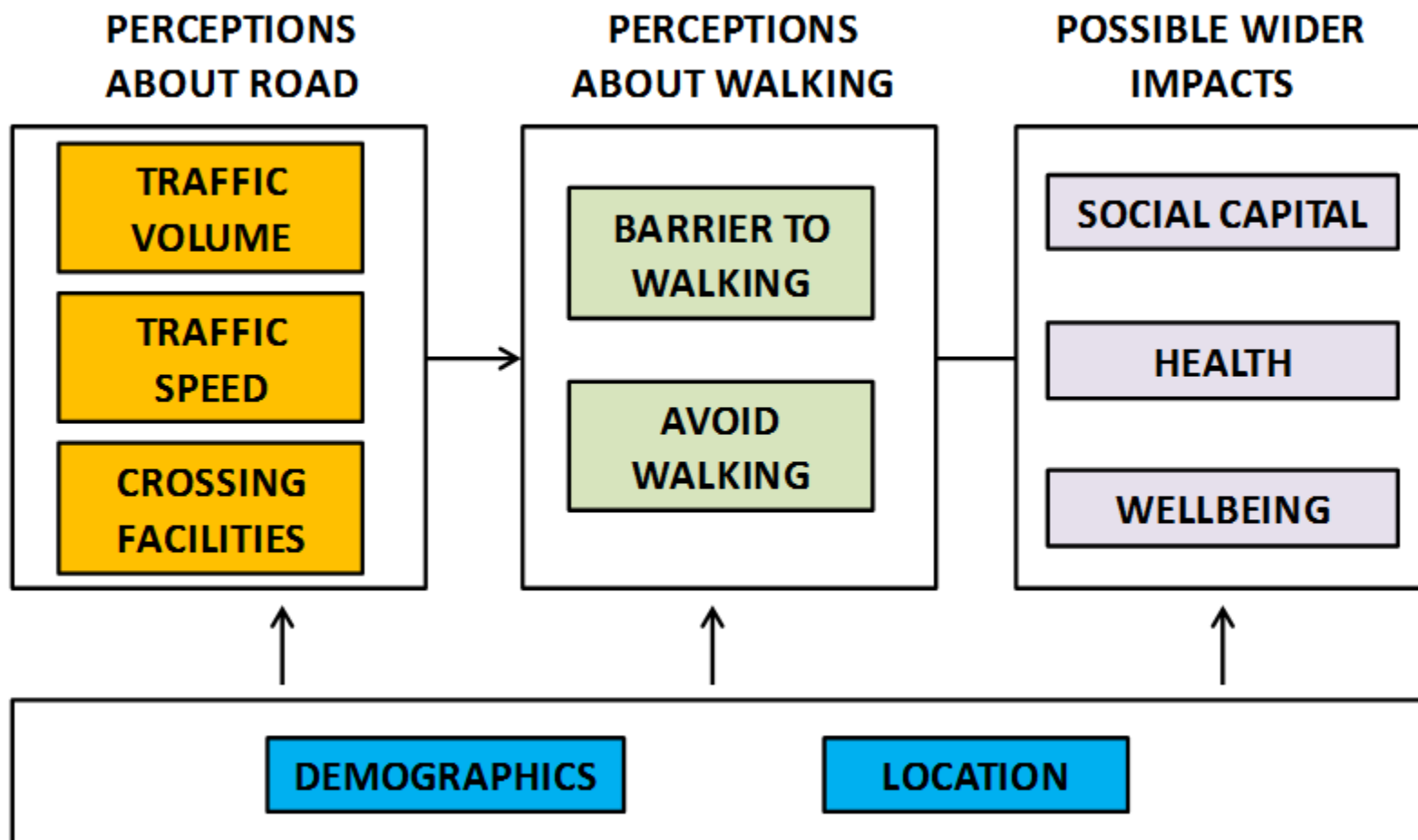






# METHOD 5

## Household survey



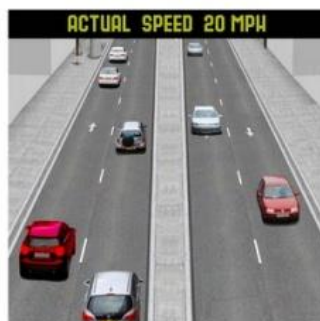


## METHOD 6

# Stated preference survey

Traffic density: **Low**

**Central reservation with no guard railing**



**In this scenario, which of the two options would you choose?**

| Option A  | Option B  |
|---|---|
| <p>Cross at this point</p> <p>Saving 80p off your one-way ticket cost</p> | <p>Do not cross the road and pay the higher ticket cost</p> |

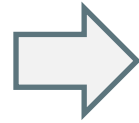
☒ Option A

☐ Option B



## METHOD 6

# Stated preference survey



Tool to value benefits of policies

### ROAD

Green: cells to be edited

How long is the section of the road?

2000

meters (between 100 to 2000m)

*Use the dropdown menus to select the characteristics of the road, or choose one of the built-in options*

#### CURRENT SCENARIO

#### FUTURE SCENARIO

Number of lanes (in each direction)

3

3

Central reservation

no

no

Traffic density

high

medium

Traffic speed

20mph

20mph

**Built-in options**

*Click on buttons*

Best possible  
conditions

Worst possible  
conditions

Best possible  
conditions

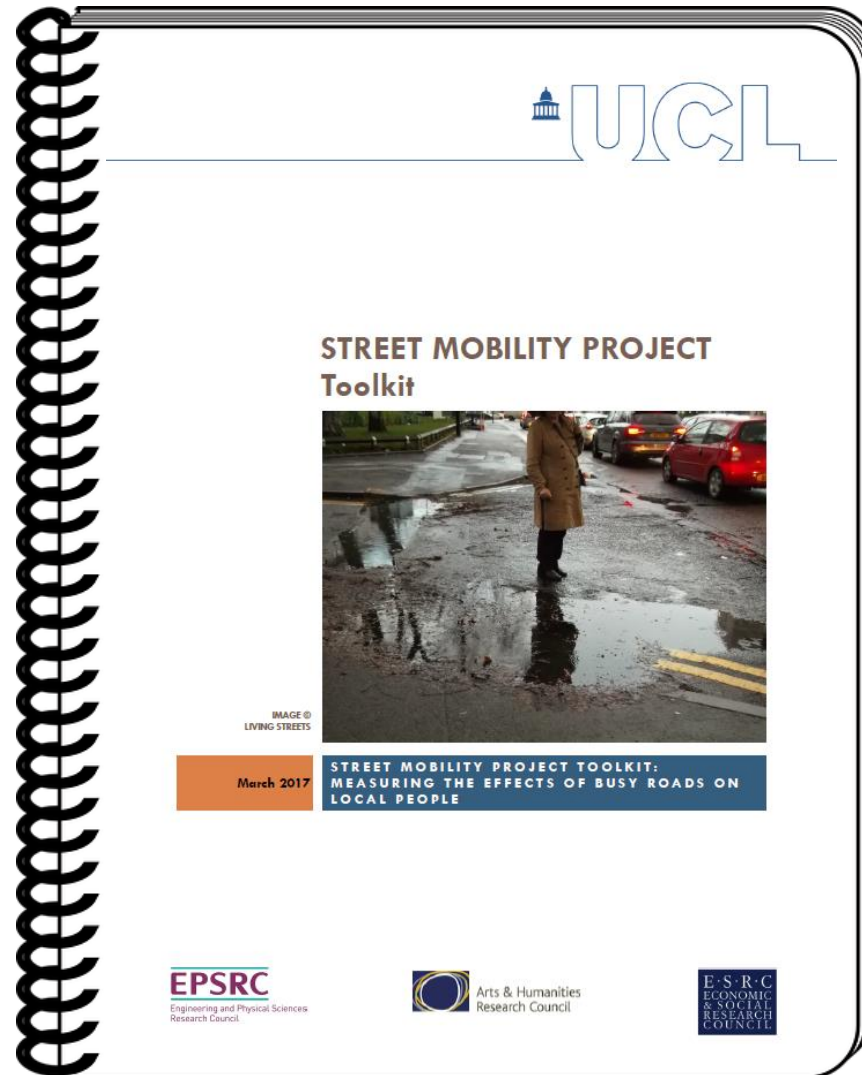
Worst possible  
conditions

Same as  
current

# Street Mobility Toolkit

Available from

<http://www.ucl.ac.uk/street-mobility/toolkit>





# APPLICATION

Mindell *et al.* (2016) Using triangulation to assess a suite of tools to measure community severance  
*Journal of Transport Geography* 60, 119-129

## Finchley Road, London



- High traffic volumes (~45,000 vehicles/day)
- 50km/h speed limit
- Lack of crossing facilities
- Walls separating pavements from road



## METHOD 2

# Participatory mapping

“Finchley Road is 'just a big pain', traffic is so heavy, buses, coaches and lorries - it's a river of traffic constant, non-stop”

(Female, 60)

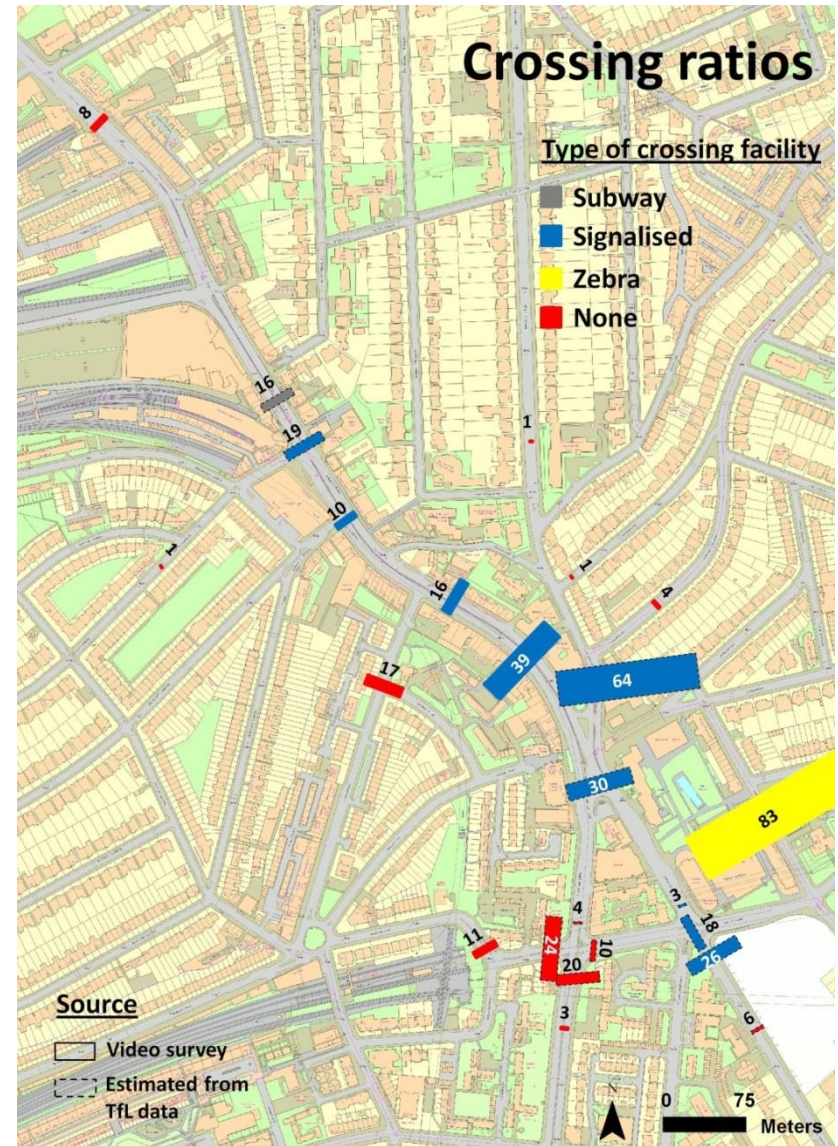
“I avoid the crossing at Swiss Cottage - there isn't enough time to cross - the traffic is so quick and the buses and coaches all trying to beat the lights is very intimidating.”

(Female, 75)



## METHOD 3

### Video surveys

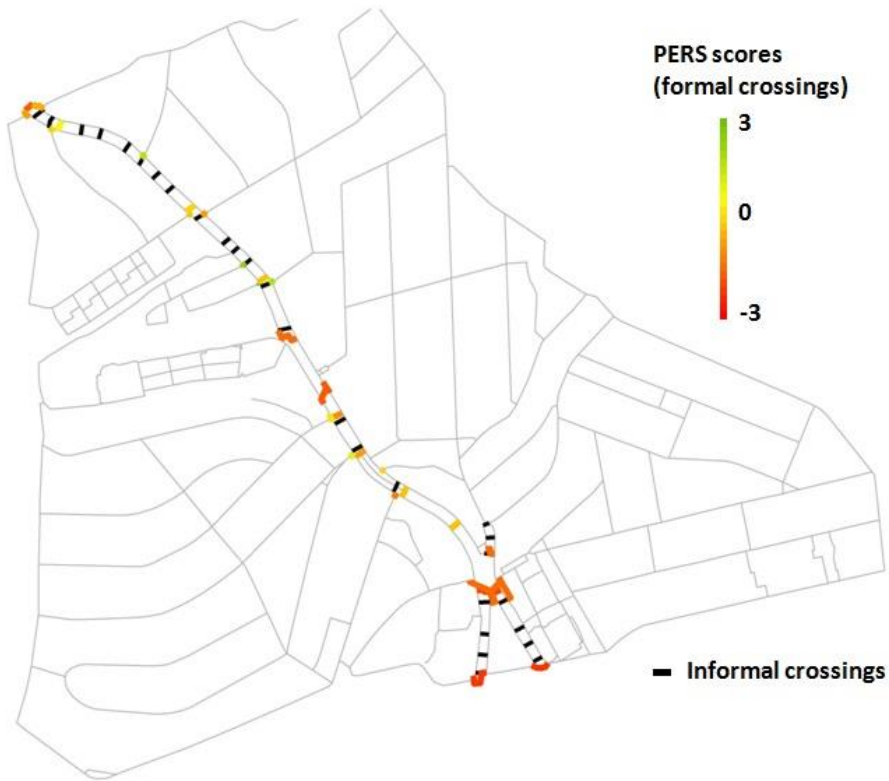






# METHOD 4

## Street audits







## METHOD 5

# Household survey

### Measured traffic volumes

Heavy



### Perceived traffic volumes

|         |     |
|---------|-----|
| Heavy   | 79% |
| Average | 19% |
| Light   | 2%  |



### Traffic affects walking

|     |     |
|-----|-----|
| Yes | 31% |
| No  | 47% |



### Avoids busy road

|     |     |
|-----|-----|
| Yes | 5%  |
| No  | 26% |



## METHOD 6

# Stated preference survey

| Potential intervention        | Implicit value |
|-------------------------------|----------------|
| 6 → 4 lanes                   | £1.92          |
| Add central reservation       | £1.61          |
| High → medium traffic density | £1.07          |
| Speed below 50km/h            | £0.91          |

# SYNTHESIS



- Finchley Road is an unpleasant place for pedestrians due to high **traffic levels** and the lack and poor quality of **crossing facilities**.
- This has a negative impact on the **mobility** and of local residents
- **Policies** to reduce severance have a measurable benefit

# Street mobility in the Latin American environment

## Additional elements to take into account

**Arterial roads in centre, difficult to be avoided by pedestrians**



**Multiple issues in some suburbs**



**Severance from BRT infrastructure**



**Interface bus-pedestrian networks**





# Street mobility in the Latin American environment

## Additional elements to take into account

### Road space allocation



### It's not only cars vs. pedestrians



### Spatial-social inequalities



### Growing age inequalities



# Thank you for your attention!

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